

What is claimed is:

1. A developer for a photopolymerizable presensitized plate for use in making a lithographic printing plate characterized in that it comprises an alkali silicate and a nonionic compound represented by the following general  
5 formula (I), it has a molar ratio:  $\text{SiO}_2/\text{M}_2\text{O}$  (wherein M represents an alkali metal or an ammonium group) ranging from 0.75 to 4.0, and a pH value ranging from 11.5 to 12.8:

A-W (I)

- ✓ wherein A represents a hydrophobic organic group whose logP as determined  
10 for A-H is not less than 1.5 and W represents a nonionic hydrophilic organic group whose logP as determined for W-H is less than 1.0.

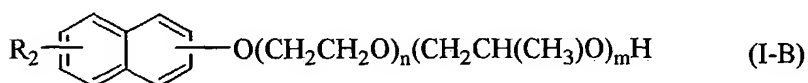
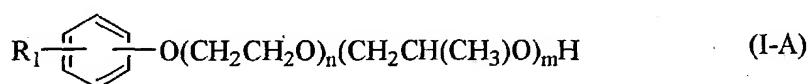
2. The developer for a photopolymerizable presensitized plate for use in making a lithographic printing plate of claim 1, wherein the alkali silicate is  
15 selected from the group consisting of sodium silicate, potassium silicate, lithium silicate and ammonium silicate.

3. The developer for a photopolymerizable presensitized plate for use in making a lithographic printing plate of claim 1, wherein the molar ratio:  
20  $\text{SiO}_2/\text{M}_2\text{O}$  ranges from 1.0 to 3.0.

4. The developer for a photopolymerizable presensitized plate for use in making a lithographic printing plate of claim 1, wherein the content of the alkali silicate ranges from 0.1 to 3% by weight as expressed in terms of the  
25 amount of silicon dioxide ( $\text{SiO}_2$ ).

5. The developer for a photopolymerizable presensitized plate for use in making a lithographic printing plate of claim 1, wherein the content of the nonionic compound ranges from 0.1 to 15% by weight.

6. The developer for a photopolymerizable presensitized plate for use in making a lithographic printing plate of claim 1, wherein the nonionic compound is at least one member selected from the group consisting of nonionic aromatic ether type surfactants represented by the following general formula (I-A) and nonionic aromatic ether type surfactants represented by the following general formula (I-B):



10 wherein  $R_1$  and  $R_2$  each represents H or an alkyl group having 1 to 100 carbon atoms and  $n$  and  $m$  each represents an integer ranging from 0 to 100, provided that  $n$  and  $m$  are not simultaneously zero.

7. The developer for a photopolymerizable presensitized plate for use in making a lithographic printing plate of claim 1, wherein it comprises carbonic acid or a carbonate.

8. The developer for a photopolymerizable presensitized plate for use in making a lithographic printing plate of claim 1, wherein it comprises an alkaline agent selected from the group consisting of sodium hydroxide, potassium hydroxide, lithium hydroxide, sodium tertiary phosphate, potassium tertiary phosphate, ammonium tertiary phosphate, sodium secondary phosphate, potassium secondary phosphate, ammonium secondary phosphate, sodium carbonate, potassium carbonate, ammonium carbonate, sodium bicarbonate, potassium bicarbonate, ammonium bicarbonate, sodium borate, potassium borate and ammonium borate, potassium citrate, sodium

citrate, monomethylamine, dimethylamine, trimethylamine, monoethylamine, diethylamine, triethylamine, monoisopropylamine, diisopropylamine, triisopropylamine, n-butylamine, monoethanolamine, diethanolamine, triethanolamine, monoisopropanolamine, diisopropanolamine, ethyleneimine, ethylenediamine, pyridine, tetramethylammonium hydroxide and mixture thereof.

9. The developer for a photopolymerizable presensitized plate for use in making a lithographic printing plate of claim 1, wherein it comprises a chelating agent for divalent metals.

10. The developer for a photopolymerizable presensitized plate for use in making a lithographic printing plate of claim 1, which has a conductivity ranging from 3 to 30 mS/cm.

11. A method for preparing a lithographic printing plate comprising the steps of imagewise exposing, to light, a presensitized plate for use in making a lithographic printing plate, which comprises a substrate provided thereon with a photopolymerizable light-sensitive layer containing a compound having at least one addition-polymerizable ethylenically unsaturated double bond and a photopolymerization initiator; and then developing the exposed presensitized plate using a developer which is characterized in that it comprises an alkali silicate and a nonionic compound represented by the following general formula (I), it has a molar ratio:  $\text{SiO}_2/\text{M}_2\text{O}$  (wherein M represents an alkali metal or an ammonium group) ranging from 0.75 to 4.0, and a pH value ranging from 11.5 to 12.8:

A-W (I)

wherein A represents a hydrophobic organic group whose logP as determined for A-H is not less than 1.5 and W represents a nonionic hydrophilic organic

group whose logP as determined for W-H is less than 1.0.

12. The method for preparing a lithographic printing plate of claim 11, wherein the light-sensitive layer has an acid value of not more than 1.0 meq/g.

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13. The method for preparing a lithographic printing plate of claim 11, wherein the light-sensitive layer comprises a compound having an acid group whose pKa value is not more than 9 and the light-sensitive layer has an acid value ranging from 0.20 to 0.60 meq/g.

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14. The method for preparing a lithographic printing plate of claim 11, wherein the imagewise exposed presensitized plate is developed in such a manner that the rate of development of the non-exposed area is not less than  $0.05 \mu\text{m/s}$  and the rate of the developer penetrating into the exposed area is not more than  $0.1 \mu\text{m/s}$ .

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15. The method for preparing a lithographic printing plate of claim 11, wherein the light-sensitive layer comprises a titanocene type initiator.

20 16. The method for preparing a lithographic printing plate of claim 11, wherein the light-sensitive layer comprises a coloring agent.

17. The method for preparing a lithographic printing plate of claim 11, wherein the substrate of the light-sensitive lithographic printing plate is an anodized aluminum substrate provided thereon with an organic compound carrying a phosphorus atom-containing acidic group or an organic silicone compound.

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18. The method for preparing a lithographic printing plate of claim 11,

wherein the alkali silicate is selected from the group consisting of sodium silicate, potassium silicate, lithium silicate and ammonium silicate.

19. The method for preparing a lithographic printing plate of claim 11,  
5 wherein the developer has the molar ratio:  $\text{SiO}_2/\text{M}_2\text{O}$  of from 1.0 to 3.0.

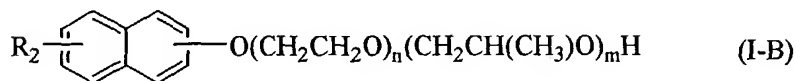
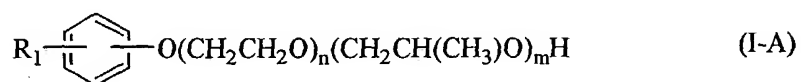
20. The method for preparing a lithographic printing plate of claim 11,  
wherein the content of the alkali silicate in the developer ranges from 0.1 to  
3% by weight as expressed in terms of the amount of silicon dioxide ( $\text{SiO}_2$ ).

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21. The method for preparing a lithographic printing plate of claim 11,  
wherein the content of the nonionic compound in the developer ranges from  
0.1 to 15% by weight.

15 22. The method for preparing a lithographic printing plate of claim 11,  
wherein the nonionic compound in the developer is at least one member  
selected from the group consisting of nonionic aromatic ether type surfactants  
represented by the following general formula (I-A) and nonionic aromatic  
ether type surfactants represented by the following general formula (I-B):

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wherein  $\text{R}_1$  and  $\text{R}_2$  each represents H or an alkyl group having 1 to 100 carbon  
atoms and  $n$  and  $m$  each represents an integer ranging from 0 to 100, provided  
that  $n$  and  $m$  are not simultaneously zero.

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23. The method for preparing a lithographic printing plate of claim 11,

wherein the developer comprises carbonic acid or a carbonate.

24. The method for preparing a lithographic printing plate of claim 11,  
wherein the developer comprises an alkaline agent selected from the group  
5 consisting of sodium hydroxide, potassium hydroxide, lithium hydroxide,  
sodium tertiary phosphate, potassium tertiary phosphate, ammonium tertiary  
phosphate, sodium secondary phosphate, potassium secondary phosphate,  
ammonium secondary phosphate, sodium carbonate, potassium carbonate,  
ammonium carbonate, sodium bicarbonate, potassium bicarbonate,  
10 ammonium bicarbonate, sodium borate, potassium borate and ammonium  
borate, potassium citrate, sodium citrate, monomethylamine, dimethylamine,  
trimethylamine, monoethylamine, diethylamine, triethylamine,  
monoisopropylamine, diisopropylamine, triisopropylamine, n-butylamine,  
monoethanolamine, diethanolamine, triethanolamine, monoisopropanolamine,  
15 diisopropanolamine, ethyleneimine, ethylenediamine, pyridine,  
tetramethylammonium hydroxide and mixture thereof.

25. The method for preparing a lithographic printing plate of claim 11,  
wherein the developer comprises a chelating agent for divalent metals.  
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26. The method for preparing a lithographic printing plate of claim 11,  
wherein the developer has a conductivity ranging from 3 to 30 mS/cm.